REMARKS

Entry of the foregoing and further and favorable reconsideration of the instant application, pursuant to and consistent with 37 C.F.R. § 1.111, are respectfully requested.

Status

By the present amendment, the only pending claim of the application, namely Claim 1, has been canceled and new Claims 63-77 have been presented.

Summary of Amendments

Further by the foregoing amendments, Applicant has amended Claim 1 to recite that "said mutant rabies virus is produced by a process comprising introducing a mutation in the nucleic acid of an infectious clone at a position encoding amino acid 389 of said N protein." Support for this amendment can be found at least at page 37, lines 17-19 of the specification. In addition, Claims 63-77 have been added, which are dependent on amended Claim 1 and modeled after original Claims 2-11, 20, 29, 38, 42, 43 and 53, and which were also previously examined in parent U.S. Application Serial No. 10/199,024 and issued as Claims 2-11, 20, 29, 38, 42, 43 and 53 of U.S. Patent No. 6,706,523 ("the '523 patent"). No new matter is believed to have been added.

Communication indicating non-responsive amendment

In the Communication dated November 20, 2006, SPE Campell alleged that "[t]he amendment filed on August 16, 2006, canceling all claims drawn to the elected invention and presenting only claims drawn to a non-elected invention is non-responsive." Applicants respectfully disagree with this assertion.

Initially, there was no Restriction Requirement in the present application. Rather, Claims 2-62 were canceled with the initial filing of the present application, pending a Preliminary Amendment to introduce new claims into the application. However, the Examiner acted on the application prior to that submission, and effectively re-examined the previously issued Claim 1.

Moreover, Claims 63-85, which were submitted in the Amendment dated August 16, 2006 and not entered, were directed to a vaccine much like Claims 11-19 of the originally filed application. Applicant would have no way of knowing that the present Examiner would consider Claims 11-19 to be directed to a different invention than Claim 1, because Claim 1 and Claims 11-19 (as well as Claims 2-10 and 20-62) were all examined together in the parent application which issued as the '523 application.

However, in order to expedite prosecution of the present application, Applicants have returned to Claim 1 and introduced amendments thereto, and have added dependent Claims 63-77, all directed to a mutant rabies virus. It is believed that the introduction of these claims is fully "responsive," and that entry of the same is proper. The same is respectfully requested.

Previous Rejection Under 35 U.S.C. § 112, First Paragraph – Written Description

Claim 1 was previously rejected under 35 U.S.C. § 112, First Paragraph, as purportedly lacking sufficient written description. *Office Action mailed July 16, 2006, Pages 2-4.* This rejection, to the extent it applies to amended Claim 1 and new Claims 63-77, is respectfully traversed.

The Examiner maintains in the Official Action that "[t]he specification does not identify the minimum regions or specific positions where the respective N proteins are to be dephosphorylated, except for N position 389." (Parenthetical omitted.) *Office Action mailed July 16, 2006, Page3.* By the present Amendment, Claim 1 has been amended to recite that "said mutant rabies virus is produced by a process comprising introducing a mutation in the nucleic acid of an infectious clone at a position encoding amino acid 389 of said N protein." As such, the Examiner has admitted that the specification supports newly amended Claim 1. Withdrawal of the rejection is therefore respectfully requested.

While moot in light of the amendment to Claim 1, Applicant would like to address the Examiner's rejections of original Claim 1, which had already issued in U.S. Patent No. 6,706,523. In addition to the Examiner's quoted statement above, the Examiner also alleges that Applicant has only disclosed a single example of an unphosphorylated mutant rabies virus.

As Applicant discloses in the specification, the single phosphorylation site on the rabies virus protein is Serine 389. *See specification at Page 2, Lines 11-22.* The Examiner's assertion that Applicant has only disclosed a single example of an unphosphorylated mutant rabies virus is erroneous – Applicant has indeed constructed mutant rabies viruses wherein the serine at the single site which might be phosphorylated is modified to an alanine (A), to a glycine (G), to an aspartic acid (D), to an asparagines (N), to a glutamic acid (E), or to a

glutamine (Q). *See Example 3, at Pages 36-53 of the specification.* None of the A, G, D, N, E, or Q residues is, or even could be, phosphorylated, because they do not contain a free -OH group as does serine, which is where the phosphorylation occurs. In addition, Applicant disclosed additional mutants in Example 4 of the specification, where, in addition to mutation of the single phosphorylation site, mutations at Leucine 16 (to either alanine, aspartic acid or glutamic acid) were made. *See specification at Pages 53-56.*

As such, Applicant provided in his specification not one example, but at least nine examples, of mutant rabies viruses within the scope of Claim 1. As such, it is submitted that the Examiner's rejection of original Claim 1 was improper.

Rejection Under 35 U.S.C. § 102(b) Over Clark

Claim 1 was rejected under 35 U.S.C. § 102(b) as purportedly anticipated by Clark and Ohtani (1976) *Infection and Immunity* 13:1418-1425 (hereinafter "Clark"). *Office Action mailed July 16, 2006, Pages 5-6.* This rejection is respectfully traversed.

While moot in light of the amendment of Claim 1, Applicant would like to address the Examiner's rejections of Claim 1, which had already issued in U.S. Patent No. 6,706,523.

The Examiner alleged that Clark disclosed at p. 1918 [sic, 1418] that Clark disclosed a mutant rabies virus. While Clark describes temperature-sensitive rabies virus mutants, Clark does not describe a mutant rabies virus wherein the N protein is not phosphorylated, as required by cancelled Claim 1. The Examiner further alleges that Applicant's disclosure teaches at Page 52 a period during which the N protein of the mutant rabies virus is not phosphorylated. *Office Action mailed July 16, 2006, Page 5.*

Indeed, Applicant's mutant rabies virus is not ever phosphorylated. Page 52 of Applicant's disclosure discusses a possible mechanism by which the N protein of wild type

rabies virus is naturally phosphorylated, based upon the observation that **free** N protein (***i.e.*, not N protein which is associated with a virus as required by cancelled Claim 1**) is not phosphorylated. Indeed, there is obviously a point in the production of N protein where it is not yet phosphorylated. However, Applicant's disclosure at Pages 52-53 goes on to describe this potential mechanism for phosphorylation by stating that the N protein is not phosphorylated before encapsidation, but becomes phosphorylated during the encapsidation process. As such, this period of unphosphorylated N protein in the wild type rabies virus is **prior to the production of an intact virus**. Therefore, Applicant's disclosure does not suggest that there is a point in the production of wild type virus or any mutant virus during which a **virus** contains an unphosphorylated N protein. Clark is therefore not prior art to Claim 1, because it does not even inherently disclose an mutant rabies virus with an unphosphorylated N protein.

However, this rejection is clearly not appropriate against amended Claim 1 or newly added Claims 63-77, which all require that "said mutant rabies virus is produced by a process comprising introducing a mutation in the nucleic acid of an infectious clone at a position encoding amino acid 389 of said N protein." Clark clearly performs no such mutation process. As such, withdrawal of this rejection is respectfully requested.

35 U.S.C. § 101 – Statutory Double Patenting Rejection

Claim 1 was rejected under 35 U.S.C. § 101 as purportedly claiming the same invention as that of Claim 1 in the '523 patent. *Office Action mailed July 16, 2006, Pages 5-6.* This rejection is moot in light of the amendment of Claim 1 and the presentation of new Claims 63-77 with the present amendment, which were not included in the issued '523 patent.

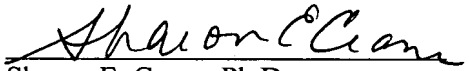
CONCLUSION

Applicants submit that the claims are now in condition for allowance, and an early indication of the same is respectfully requested.

In the event that there are any questions relating to this Amendment or to the application in general, it would be appreciated if the Examiner would contact the undersigned attorney by telephone at (202) 373-6150 so that prosecution of the application may be expedited.

The Director is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-2518.

Respectfully submitted,
BINGHAM MCCUTCHEN, LLP

Date: April 9, 2007 By: 

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